Biological Resources Impact Analysis
Technical Report

Redevelopment of the 70-Acre Parcel and Land Acquisition Project
Gillespie Field
El Cajon, California

Prepared for:
County of San Diego
Department of Public Works
5469 Kearny Villa Road, Suite 305
San Diego, CA 92123

Prepared on Behalf of:
PBS&J
9275 Sky Park Court, Suite 200
San Diego, CA 92123

Prepared by:
Technology Associates
INTERNATIONAL CORPORATION
9089 Clairemont Mesa Blvd, Suite 307
San Diego, CA 92123

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1.0 INTRODUCTION

1.1 Project Background

Gillespie Field Airport is a 757-acre publicly-owned facility that serves the City of El Cajon and surrounding communities (Figure 1). It is owned by the County of San Diego and operated by the Department of Public Works. Recently, the County commissioned a transportation planning study, the Airport Layout Plan Update, to establish the extent, type, and schedule of development necessary to accommodate future aviation demand at the airport (P&D Aviation 2005). It was determined that the 70-acre parcel, previously the El Cajon Speedway, would need to be developed in the future to accommodate the projected increase in aircraft based at the airport. Acquisition of land and avigation easements within the runway protection zones will ensure an unobstructed approach to the airport.

The majority of the project area consists of developed or disturbed habitat. However, the 70-acre parcel includes a mitigation area for the federally endangered San Diego ambrosia (*Ambrosia pumila*), which was created as mitigation for impacts to this species from the Gillespie Field Master Plan and Development Project (AD Hinshaw Associates 1987) prior to its listing by US Fish and Wildlife Service (USFWS).

1.2 Project Location

The Gillespie Field Airport is located on San Diego County-owned land on the northern border of the City of El Cajon and the southern border of the City of Santee, approximately 13 miles northeast of downtown San Diego. Access to El Cajon is primarily provided by Interstate 8, which runs through the city. State Highway 67 is a north-south highway that serves as a connector from Riverside County. State Route 125 is also a north-south highway that currently ends on the western side of El Cajon. Gillespie Field Airport is bordered by Kenney Street on the north, Magnolia Avenue on the east, Bradley Avenue on the south, and Cuyamaca Street on the west (Figure 2).

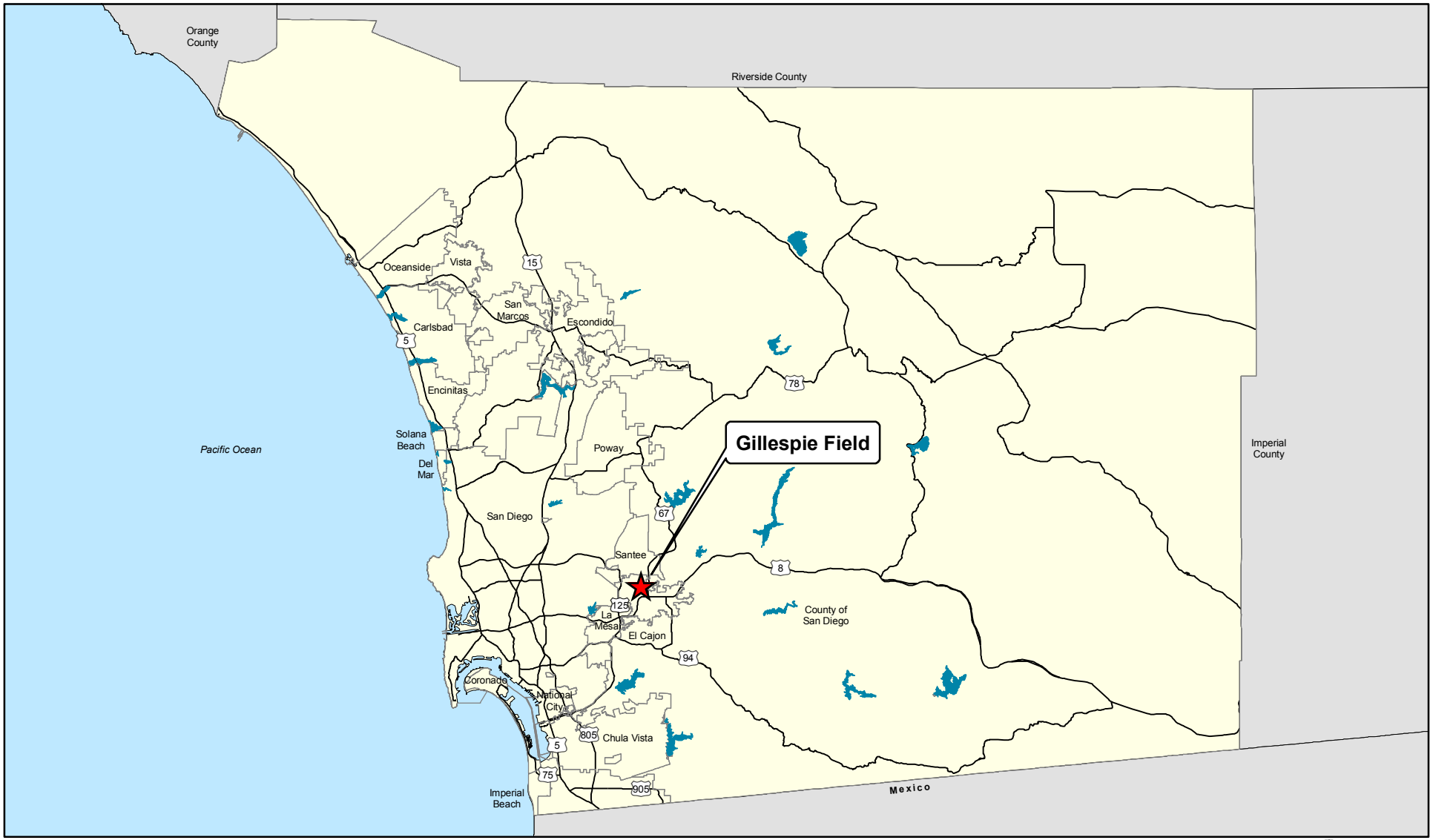
1.3 Purpose

The purpose of this Biological Technical Report (BTR) is to describe and evaluate the biological resources within the footprint of the proposed project pursuant to state regulations that govern projects proposed by the County of San Diego, including the California

Environmental Quality Act (CEQA) and the California Endangered Species Act (CESA) as administered by the California Department of Fish and Game (CDFG), and the California Fish and Game Code. This airport project also falls under the auspices of the Federal Aviation Administration (FAA) as the lead agency under National Environmental Policy Act (NEPA) regulations, the Federal Endangered Species Act (FESA), and the Clean Water Act.

This report does not evaluate potential project impacts and mitigation under county-level regulations because they do not apply to Gillespie Field for the following reasons. Gillespie Field Airport falls outside of the County's Multiple Species Conservation Program (MSCP) subarea. The study area is within the jurisdiction of the City of El Cajon; however the El Cajon Subarea Plan has not been finalized at this time. Therefore, although Gillespie Field is on County owned land, it does not currently fall under the MSCP regulatory framework because there is no Implementing Agreement with the City of El Cajon. Gillespie Field Airport is also exempt from the County's Resource Protection Ordinance (RPO), which regulates land in unincorporated San Diego County pursuant to Article 5 (Exemptions), number 3 ("any essential public facility" that is consistent with adopted subregional plans and includes all possible mitigation measures).

With respect to the local, state and federal regulations and policies summarized above, the contents of this BTR include the following: (i) an analysis of vegetation communities, wetlands, sensitive habitats, flora, and wildlife, (ii) an analysis of potential project impacts to these resources, and (iii) a discussion of avoidance, minimization, and mitigation opportunities.



TAIC

Gillespie Field 70-Acre Parcel Redevelopment and Land Acquisition Project
Regional Location Map

Figure 1

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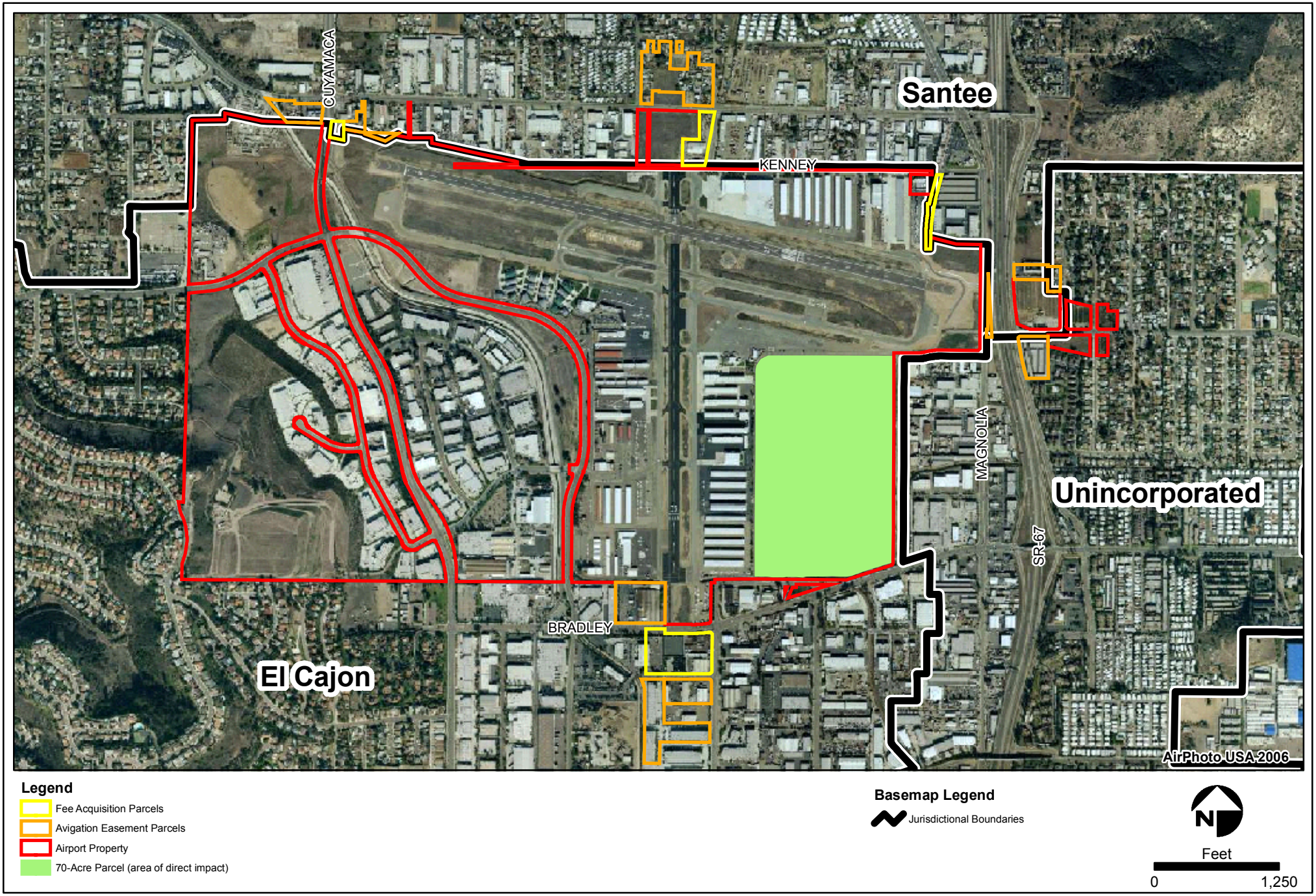

TAIC

Gillespie Field 70-Acre Parcel Redevelopment and Land Acquisition Project

Figure 2

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1.4 Project Description

1.4.1 Proposed Project

The Proposed Project consists of the redevelopment of a 70-acre parcel, previously the El Cajon Speedway, located to the north and west of the intersection of Bradley Avenue and Wing Avenue in the City of El Cajon from non-aviation use to aviation use (Figure 3). This change in land use will allow for the installation of a taxiway, apron, and drainage improvements (approximately 15 acres), and later aviation development by private developers (approximately 55 acres). Future improvements to be completed by private developers may include: rectangular and T-hanger spaces, conventional hangar space, aircraft tie-downs, apron area, automobile parking, aircraft maintenance space, and aviation office and business space. The entire parcel would be developed, including the 1.1 acre enclosure presently being used as a mitigation site for San Diego ambrosia (*Ambrosia pumila*) that was set aside for prior development at the airport. All plants from this area would be transplanted to a suitable receptor site in eastern San Diego County. Drainage ditches along the northern and eastern edges of the 70-acre parcel are part of the existing airport drainage system. The northern ditch is expected to be replaced with a pipe, and paved over. There are no plans for the eastern ditch at this time.

The Proposed Project would also involve the acquisition of property from willing sellers to meet federal safety requirements. FAA regulations indicate that the approach surface of the runways at Gillespie Field should be kept free of all obstructions. Control of the runway protection zones at the ends of the runways is essential to ensure that unobstructed approach surfaces are maintained. Land acquisition is proposed to meet federal safety standards for unobstructed approaches for runways 9L-27R and 17-35. Table 1-1 lists the Assessor's Parcel Numbers (APNs) that have been identified for proposed land acquisitions. Where land acquisition is not necessary or infeasible, avigation easements to prevent obstructions in the flight surface and to allow for overflight would be acquired (Table 1-2).

Legend

- Taxiway and Other Infrastructure Improvements
- Aviation Development

N

Feet

0 450

TAIC

Gillespie Field 70-Acre Parcel Redevelopment and Land Acquisition Project
Proposed Project within 70-Acre Parcel

Figure 3

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Table 1-1 APNs for Proposed Land Acquisition

384-190-44	384-410-63	482-131-02
384-240-05	384-410-68	482-131-03
384-240-06	384-410-74	482-131-04
384-240-07	384-410-76	482-131-05
384-240-17	387-030-05	482-131-06
384-410-20	387-081-07	482-131-07
384-410-40	387-110-41	

Table 1-2. APNs for Avigation Easements

384-190-61	384-410-07	384-410-25	384-410-49	384-410-66
384-190-69	384-410-15	384-410-26	384-410-50	387-074-02
384-311-26	384-410-16	384-410-29	384-410-52	387-081-01
384-311-27	384-410-17	384-410-33	384-410-60	387-090-34
384-410-02	384-410-18	384-410-41	384-410-61	387-090-36
384-410-04	384-410-19	384-410-42	384-410-64	482-131-09
384-410-05	384-410-24	384-410-43	384-410-65	482-131-14

1.4.2 Alternative A (Reduced Footprint Alternative)

Alternative A (Reduced Footprint Alternative) consists of developing 66.9 acres (15 acres apron & taxiway and 51.9 acres aviation development) while preserving 3.1 acres (1.1 acres of San Diego ambrosia with 100-ft softscape buffer of 2 acres). This alternative is shown in Figure 4. Alternative A would include the installation of a taxiway, apron, and drainage improvements (approximately 15 acres) and the same type of private development described in the Proposed Project. The acquisition of land and avigation easements would remain unchanged from the Proposed Project (Tables 1-1 & 1-2).

1.4.3 Alternative B (Further Reduced Project Alternative)

Alternative B (Further Reduced Project Alternative) consists of developing 36.5 acres (15 acres apron, taxiway, and drainage improvements; and 21.5 acres aviation development); while 33.5 acres would remain in existing uses (includes preserving the 1.1 acre ambrosia mitigation area). This alternative is shown in Figure 5. The acquisition of land and avigation easements would remain unchanged from the Proposed Project (Tables 1-1 & 1-2).

Legend

- Taxiway and Other Infrastructure Improvements
- Aviation Development
- Existing Ambrosia Population (excluded from alternative A)
- 100 Foot Buffer around Existing Ambrosia Population (excluded from alternative A)

N

Feet

0 450

TAIC

Gillespie Field 70-Acre Parcel Redevelopment and Land Acquisition Project
Alternative A (Reduced Footprint) within 70-Acre Parcel

Figure 4

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Date: Jun 18, 2007

Legend

- Taxiway and Other Infrastructure Improvements
- Aviation Development
- Existing Ambrosia Population (excluded from alternative B)

N

Feet

0 450

TAIC

Gillespie Field 70-Acre Parcel Redevelopment and Land Acquisition Project
Alternative B (Further Reduced Footprint) within 70-Acre Parcel

Figure 5

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2.0 REGULATORY SETTING

This section describes the federal and state regulations and policies that are applicable to the proposed project.

2.1 Federal Regulations and Policies

- **National Environmental Policy Act of 1969 (NEPA)**, as amended (42 United States Code [USC] §§ 4321 *et seq*). This national policy promotes efforts that prevent damage to the environment and benefit human health and welfare.
- **Federal Aviation Administration (FAA) Order 1050.1E** as amended. This order updates the FAA agency-wide policies and procedures for compliance with NEPA. The provisions of this order apply to actions directly undertaken by the FAA and where the FAA has sufficient control and responsibility to condition the license or project approval of a non-Federal entity.

- **Federal Endangered Species Act (FESA),** Sections 7 and 9 (16 USC §§1531 *et seq.*; 50 Code of Federal Regulations [CFR] Part 402). FESA prohibits the "take" (to harm, harass, or kill individuals, or destroy associated habitat) of species federally listed as threatened or endangered. Take incidental to otherwise lawful activities can be authorized by the U.S. Fish and Wildlife Service under Section 7 of FESA.
- **Clean Water Act (CWA)** – Sections 401 and 404 of the CWA (33 USC §§1344). Activities that have the potential to discharge fill materials into "waters of the United States," including wetlands, are regulated under Section 404 of the CWA, as administered by the Corps. Fill activities may be permitted under a Nationwide or Individual Permit. The Nationwide Permit Program involves certain activities that have been pre-authorized by the Corps. Individual Permits require the Corps to rule in favor of the least environmentally damaging practicable alternative when multiple alternatives are available for a project. Typically, the Corps requires temporary impacts to be mitigated through restoration, and permanent impacts to be mitigated through restoration or enhancement of additional wetland areas at a pre-determined ratio. Alternatively, permanent impacts can be mitigated through in-lieu fees that are paid into a mitigation-banking fund.
- **Migratory Bird Treaty Act** (16 USC 703-712; 50 CFR 10). The federal Migratory Bird Treaty Act prohibits the direct or indirect take of migratory birds and their active nests unless permitted.

2.2 State Regulations and Policies

- **Natural Community Conservation Planning Act (NCCP)** as amended. (California Fish and Game Code §§2800-2835). The primary objective of the NCCP program is to conserve natural communities at the ecosystem scale while accommodating compatible land use. The program seeks to anticipate and prevent the controversies and gridlock caused by species' listings by focusing on the long-term stability of wildlife and plant communities and including key interests in the process.
- **California Environmental Quality Act of 1970 (CEQA)** as amended (Public Resources Code [PRC] §§21000 *et seq.*). The goal of CEQA is to assist California public agencies in identifying potential significant negative environmental impacts caused by their actions, and avoiding or mitigating those impacts, when feasible.
- **California Endangered Species Act (CESA)** (California Fish and Game Code §§2050 *et seq.*). Section 2050 of the California Fish and Game Code prohibits any activities that would jeopardize or take a species designated as threatened or endangered by the state.
- **Porter-Cologne Water Quality Control Act.** The state enforces federal water quality protection programs for which they have been delegated authority. The Porter-Cologne Water Quality Control Act provides a comprehensive statewide system for water pollution control. Under the Porter-Cologne Act, the State Water Resources Control Board is responsible for adopting water quality standards as required to fulfill the state's responsibilities under the federal CWA (Sections 401 and 402), and for regulating discharges and potential discharges to groundwater.
- **CDFG Code 1600 – Streambed Alteration Agreement** (California Fish and Game Code §1600). Section 1600 of the Fish and Game Code regulates the alteration of the bed, bank, or channel of a stream, river, or lake, including dry washes. Generally, CDFG asserts jurisdiction up to the top of significant bank cuts or to the outside of any riparian vegetation associated with a watercourse.
- **California Fully protected Wildlife Species Provisions** (California Fish and Game Code §§3511, 4700, 5050, and 5515). These provisions prohibit the taking of fully protected birds, mammals, amphibians, and fish.
- **Birds of Prey Protection Provision** (California Fish and Game Code § 3503.5). This provision prohibits the taking of birds of prey (Orders Falconiformes and Strigiformes), including their nests and eggs.

3.0 METHODS

Biological resources data for the project were obtained through a review of the pertinent literature and data resources, and through field reconnaissance. Each of these resources is detailed below.

3.1 Literature and Data Review

Sensitive biological resources present or potentially present on the proposed project site were identified through a review of the following databases: California Natural Diversity Database (CNDDB 2006), MSCP species database (SANDAG 1995), U.S. Fish and Wildlife Service (USFWS 2006), California Native Plant Society's Inventory of Rare and Endangered Vascular Plants (CNPS, 2006), and the San Diego Natural History Museum's Bird and Mammal Atlas databases (SDNHM 2005). Sensitive species occurring within one mile of the project site were mapped and analyzed for their potential to occur within the project footprint.

Documents reviewed include the Wetland Delineation Report previously performed for this project (TAIC 2006), Notice of Preparation of an Environmental Report/Environmental Assessment (DPW, 2005), Gillespie Field Airport Layout Plan Update (P&D Aviation 2005), the San Diego Ambrosia Transplantation Plan (Dudek and Associates 1999), Final Report on the Transplantation and Monitoring of *Ambrosia pumila* at Gillespie Field Airport (PSBS 1995), Final EIR for the Gillespie Field Master Plan Revision and Development Project (AD Hinshaw Associates 1987), and Biological Survey Report (ESU, 1985).

General biological information and taxonomy were obtained from the following sources: Reiser (1994), the California Native Plant Society (CNPS 2006), and Simpson and Rebman (2006) for Plants; Unitt (2004) for birds; Eder (2005) and Bond (1977) for mammals; and Stebbins (2003) for reptiles and amphibians.

3.2 Field Reconnaissance

The purpose of these surveys was to assess the presence and extent of biological resources in the project area.

3.2.1 General Biological Resources Survey

On March 24, 2006, TAIC biologist Rosanne Humphrey performed a general biological resources survey within the 70-acre parcel and the fee acquisition/avigation easement parcels to determine the presence of sensitive habitats, and plant and animal species, and to analyze the site for general wildlife use. The survey of the 70-acre parcel was conducted on foot, and the acquisition and easement parcels were analyzed using a combination of aerial photography and on-the-ground reconnaissance.

During this survey Ms. Humphrey mapped vegetation communities onto a 200-feet-to-the-inch scaled color aerial photograph, which was later transferred into a GIS database. Observations of sensitive plant and wildlife species were recorded onto a data form and marked in the field with a hand held Global Positioning System (GPS) unit, and photographs of the site at various locations were taken. Incidental observations of non-sensitive plants and animals were recorded as well. A complete list of plant and animal species that were observed onsite is included in Appendix A.

3.2.2 Rare Plant and Focused Species Surveys

On March 24, 2006, Suzann Leininger conducted a rare plant survey and focused species survey for the federally endangered San Diego ambrosia within the 70-acre parcel and the fee acquisition/avigation easement parcels. The survey of the 70-acre parcel was conducted on foot, and the acquisition and easement parcels were analyzed using a combination of aerial photography and on-the-ground reconnaissance.

During this survey Ms. Leininger marked the outer edges of the *Ambrosia pumila* population within the existing mitigation site with a hand held GPS unit, which was later transferred into a GIS database. In addition, Ms. Leininger estimated the population density of ambrosia within this patch by counting the number of above ground stems within three one-square-meter quadrats. All other observations of sensitive plant species were recorded with GPS waypoints, and incidental observations of plant and animal species were recorded onto a data form. Because ambrosia becomes dormant during the winter, some of the plants may have not been visible in March, which is the beginning of the growing season for this species. Therefore, the outer boundary of the ambrosia population was re-assessed on May 4, 2006 to determine if additional plants were visible.

3.2.3 Survey Limitations

Limitations of the biological surveys include a seasonal bias for plants. Herbaceous annual or perennial plant species that flower between late spring and fall would be difficult to observe during early springtime surveys. However, because *Ambrosia pumila* is structurally distinctive (size and shape of leaves and plant, for example), it was possible to conduct focused surveys for this species prior to its blooming period (June - September). Because the aerial stems sprout in early spring after the winter rains (USFWS 2002) it is possible that the full extent of the ambrosia population was not observed during the survey period, as the 2006 winter rains came later than expected (starting in mid February of 2006). Additionally, this is a clonal species that spreads vegetatively by underground rhizome-like roots, which makes individual plant counts and population estimates difficult.

Another limitation of this study is a seasonal bias for birds. Many migrating birds do not begin to arrive in San Diego County until about mid April (Unitt, 2004), so it is possible that the general biological resources survey was conducted too early to capture the full suite of avifauna.

4.0 RESULTS

This section describes the existing conditions in the study area, including vegetation communities, flora, fauna, and sensitive species. The information reported here includes results from the most recent biological resources survey and wetlands delineation, as well as data from species databases as described above.

4.1 Vegetation Communities

Vegetation communities are assemblages of plants that coexist in space and time. The vegetation communities observed within the study area and described in this report were classified according to the Thomas Oberbauer modification of Holland Community Types (Holland 1986; Oberbauer 2005), which uses an arbitrary code to identify community types. Table 4-1 summarizes the acreage of each vegetation community within the 70-acre parcel and the acquisitions or easements. This section provides a general description of the vegetation observed in the project study area, followed by a more detailed description of each vegetation community, including the acreage and location of each community within the project study area. A full compendium of plant species observed within the study area is included in this report for reference (Appendix A).

Table 4-1. Acreage of Vegetation Communities within the Study Area.

Vegetation Community	Acreage	
	70-acre Parcel	Acquisitions/ Easements
Disturbed Habitat	68.9	0.14
Urban/Developed	0	37.0
Non-Vegetated Channel	1.1	0
Freshwater Marsh	0.05	0
Non-Native Grassland	1.1	1.3
TOTAL	**71.2**	**38.44**

Disturbed Habitat (11300)

Non-native vegetation occurs on land where the native vegetation has been significantly altered by agriculture, construction, or other land-clearing activities, and the species composition and site conditions are not characteristic of the disturbed phase of one of the plant associations within the study region. Such habitat is typically dominated by nonnative species, many of which are invasive, such as Russian-thistle (*Salsola tragus*), sweet fennel (*Foeniculum vulgare*), mustards (*Brassica* spp., and *Hirschfeldia incana*), filaree (*Erodium* spp.), and a variety of annual grasses (Family Poaceae). Non-native trees, such as eucalyptus (*Eucalyptus* spp.), and pepper-trees (*Schinus molle*, and *S. terebinthifolius*) can also occur in this association, as well as ornamentals, such as oleander (*Nerium oleander*) and iceplant (*Mesembryanthemum spp.).*

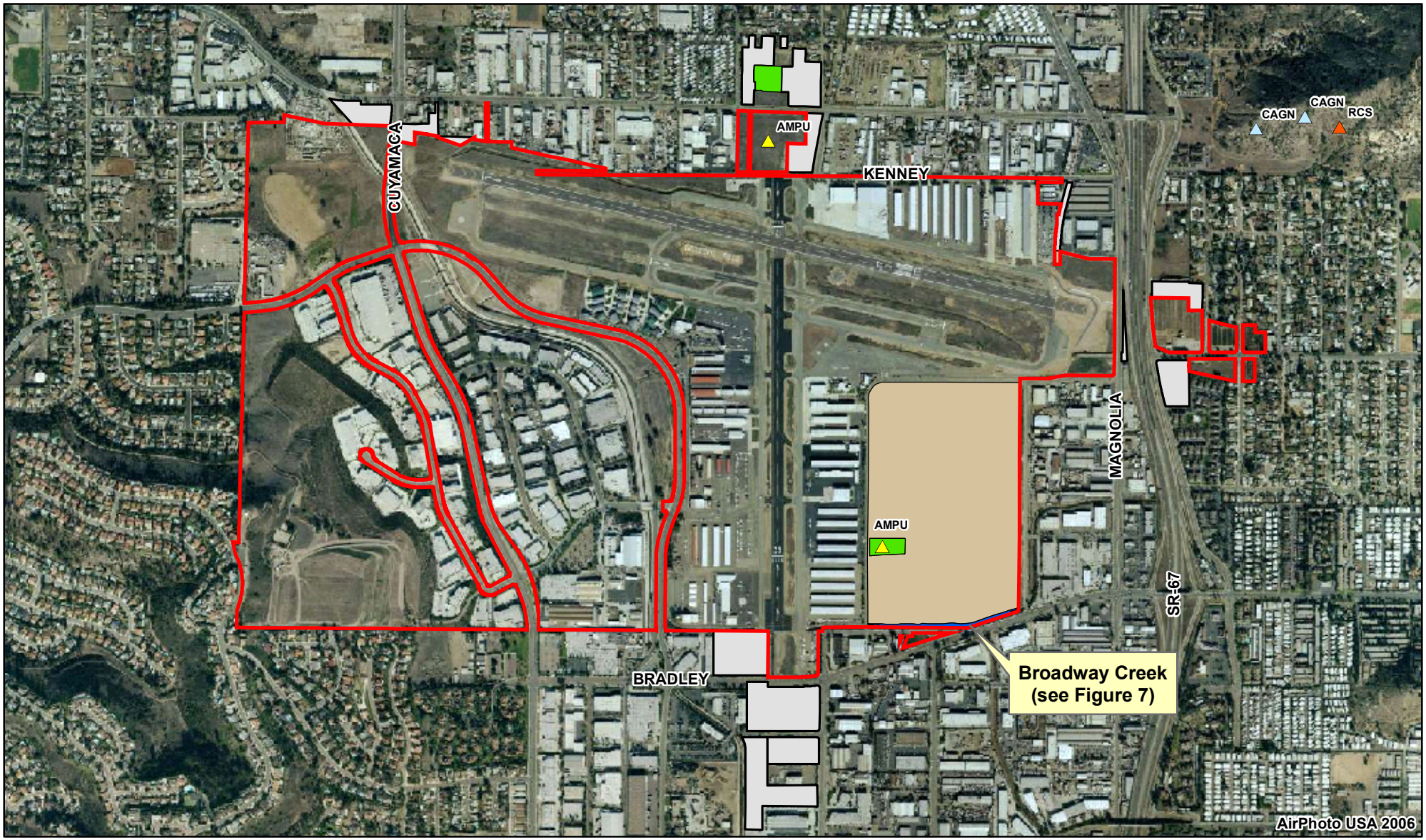
This is the most dominant vegetation community within the project footprint (Figures 6 and 7). Approximately 68.9 acres of the 70-acre parcel and 0.14 acre of the fee acquisition/avigation easement parcels are composed of disturbed habitat. Exclusive of the mitigation area, the majority of this parcel has been developed in the past and supported various land use activities, including a racetrack, roadways, parking lots, and storage areas. Currently, with the exception of the protected mitigation area and fencing (see Figure 7), all associated structures have been dismantled and the site has been graded and covered with straw. Dominant plants in this area include filaree, mustards, wild radish (*Raphanus sativus*), and non-native grasses, however the straw has kept the growth of invasive species to a minimum. In addition to the non-native plants, a few natives such as blue-eyed grass (*Sisyrinchium bellum*), and wild onion (*Allium* sp.) were also observed.

Urban/Developed (12000)

Developed areas support no native vegetation and may be additionally characterized by the presence of man-made structures such as buildings or roads. The level of soil disturbance is such that only non-native or invasive plant species would be expected to occur. With the exception of a small parcel to the north of Runway 17-35, all of the acquisitions and avigation easements consist of developed land, totaling 37.0 acres.

Non-Vegetated Channel (13200)

Non-vegetated channels are unvegetated or sparsely vegetated drainages outside of the area of tidal influence. These areas are generally considered "waters of the U.S" by the U.S. Army



Legend

Vegetation Community
- Developed
- Disturbed Habitat
- Freshwater Marsh
- Non-Native Grassland
- Non-Vegetated Channel

Sensitive Species
- California Gnatcatcher
- Rufous-Crowned Sparrow
- San Diego Ambrosia

Base Map Legend
- Airport Property

N

Feet

0 1,250

TAIC

Gillespie Field 70-Acre Parcel Redevelopment and Land Acquisition Project
Vegetation Communites and Sensitive Species

Figure 6

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Date: Jul 10, 2007

Legend

Current Ambrosia pumila Population

Vegetation Community

- Disturbed Habitat
- Freshwater Marsh
- Non-Native Grassland (current Ambrosia pumila mitigation area)
- Non-Vegetated Channel

Base Map Legend

- Airport Property
- Map Extent Displayed in Inset

N

Feet

0 150

TAIC

Gillespie Field 70-Acre Parcel Redevelopment and Land Acquisition Project
Vegetation Communites at Southern End of 70-Acre Parcel

Figure 7

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Corps of Engineers (Corps) and "streambed" by the CDFG and are therefore subject to the respective regulatory jurisdiction of the Corps and CDFG. The lack of significant vegetative cover in such areas can be attributed to either natural processes, such as flooding, or to human activities, such as vegetation clearing, sand mining, or stream channelization. Areas are designated as disturbed channels if the channel has been artificially cleared or disturbed, or if the channel is dominated by non-native trees and lacks any native riparian component.

One non-vegetated channel (Broadway Creek) is located along the southern boundary of the 70 acre parcel which consists of approximately 1.1 acres. Small patches of freshwater marsh occur at the eastern and western ends at the bottom of the channel (Figure 8).

Non-Native Grassland (42200)

Non-native grassland generally occurs on fine-textured loam or clay soils which are moist or even waterlogged during the winter rainy season and very dry during the summer and fall. It is characterized by a dense to sparse cover of annual grasses, often with native and nonnative annual forbs (Holland 1986). This habitat is a disturbance-related community most often found in old fields or openings in native scrub habitats. Typical grasses within the study region include wild oats (*Avena fatua* and *A. barbata*), foxtail chess (*Bromus madritensis* ssp. *rubens*), ripgut grass (*Bromus diandrus*), and Italian ryegrass (*Lolium multiflorum*). Characteristic forbs include filarees, mustards, California poppies (*Eschscholzia californica*) tarweed (*Deinandra fascisulatum*), California goldfields (*Lasthenia californica*), and lupines (*Lupinus* spp.). Disturbed non-native grassland is characterized by a high level of disturbance and exotic species other than grasses.

A small patch (1.3 acres) of non-native grassland is surrounded by residential development north of Runway 17-35. Dominant species include turf grasses, filarees, mustards, and common mallow (*Malva parviflora*). In addition, because the ambrosia mitigation enclosure within the 70-acre parcel is dominated by non-native grasses and wild radish, this 1.1-acre area has also been designated as non-native grassland (Figure 8). The dominant species are wild oats, bromes, and barley (*Hordeum* sp.). Many of the grasses are at least three feet tall and form a thick, monocultural stand. At the time of the 2006 survey, the *Ambrosia pumila* population occupied approximately 0.16 acre within the enclosure (Figure 7), mostly in the less dense areas. Although it is difficult to determine the number of individuals in a clonal species, a rough estimate of population density within the species polygon ranges from approximately 20 to 50 plants (aerial stems)/square meter.

Figure 8. Site Photographs

San Diego ambrosia (*Ambrosia pumila*)

Freshwater marsh, Broadway Creek

Ambrosia enclosure (foreground) within the 70-acre parcel

Coastal and Valley Freshwater Marsh (52410)

Freshwater marsh is dominated by perennial, emergent monocots 1.3 to 2 m (4.3 to 6.6 ft.) tall. Uniform stands of bulrushes (*Scirpus* spp.) or cattails (*Typha* spp.) often characterize this habitat. Freshwater marsh occurs in wetlands that are permanently flooded by standing fresh water (Holland 1986). Approximately 0.05 acre of freshwater marsh occurs in two small patches of cattails at the bottom of Broadway Creek, located at the southern boundary of the 70-acre parcel.

4.2 Wildlife

The study area supports a low diversity of wildlife species due to the high level of disturbance and habitat fragmentation caused by development in the vicinity. The study area is entirely surrounded by airport related development and residential neighborhoods. Many of the species observed during the general biological resources survey are typical of those found in an urban environment, such as the house sparrow (*Passer domesticus*), house finch (*Carpodacus mexicanus*), American Crow (*Corvus brachyrhynchus*), northern mockingbird (*Mimus polyglottus)*, California ground squirrel (*Spermophilus beecheyi*), and pocket gopher (*Thomomys bottae*). Other urban dwelling native species that may occur in the area include the raccoon (*Procyon lotor*), and coyote (*Canus latrans*). A full compendium of species observed within the study area has been attached as Appendix A for reference.

4.3 Sensitive Habitats: Wetlands

The project site is located in the San Diego Basin within the San Diego River Watershed. Gillespie Field Airport lies approximately 2 miles south of the San Diego River. In 2005, TAIC conducted a formal jurisdictional delineation on the project site. TAIC biologists examined the project site to determine if an area in the northwestern portion of the 70-acre parcel met the definition of a jurisdictional vernal pool (TAIC 2005). Although this area was not ultimately found to be a wetland under the jurisdiction of the Corps due to its isolation from navigable waters and the lack of wetlands soil indicators, the area contained individual wetlands indicators as defined by the Corps, CDFG, and USFWS. For example, the depression contained hydrological wetlands indicators ("crusting") indicating recent inundation. In addition, primary wetlands indicator plants such as common spike rush (*Eleocharis macrostachya*), and secondary indicators such as toad rush (*Juncus bufonius*), and purple loosestrife (*Lythrum hyssopifolium*), were sparsely distributed in the area.

Although the area contained soils characteristic of vernal pools, and the site infrequently ponded water, primary vernal pool indicators were not found on the site due to historic site disturbance. The site was therefore determined to be devoid of vernal pools at the time of the surveys. The only sensitive wetland habitats identified within the study area were the non-vegetated channel and patches of freshwater marsh located in the bottom of the Broadway Creek channel. The 1.1-acre channel itself would be considered "non-vegetated waters of the U.S." (WOUS) as defined by the Corps, and "streambed" as defined by CDFG. Freshwater marsh habitat present within the channel comprises wetlands subject to the regulatory jurisdiction of both the Corps and CDFG.

4.4 Sensitive Plant and Wildlife Species

4.4.1 San Diego Ambrosia

Distribution

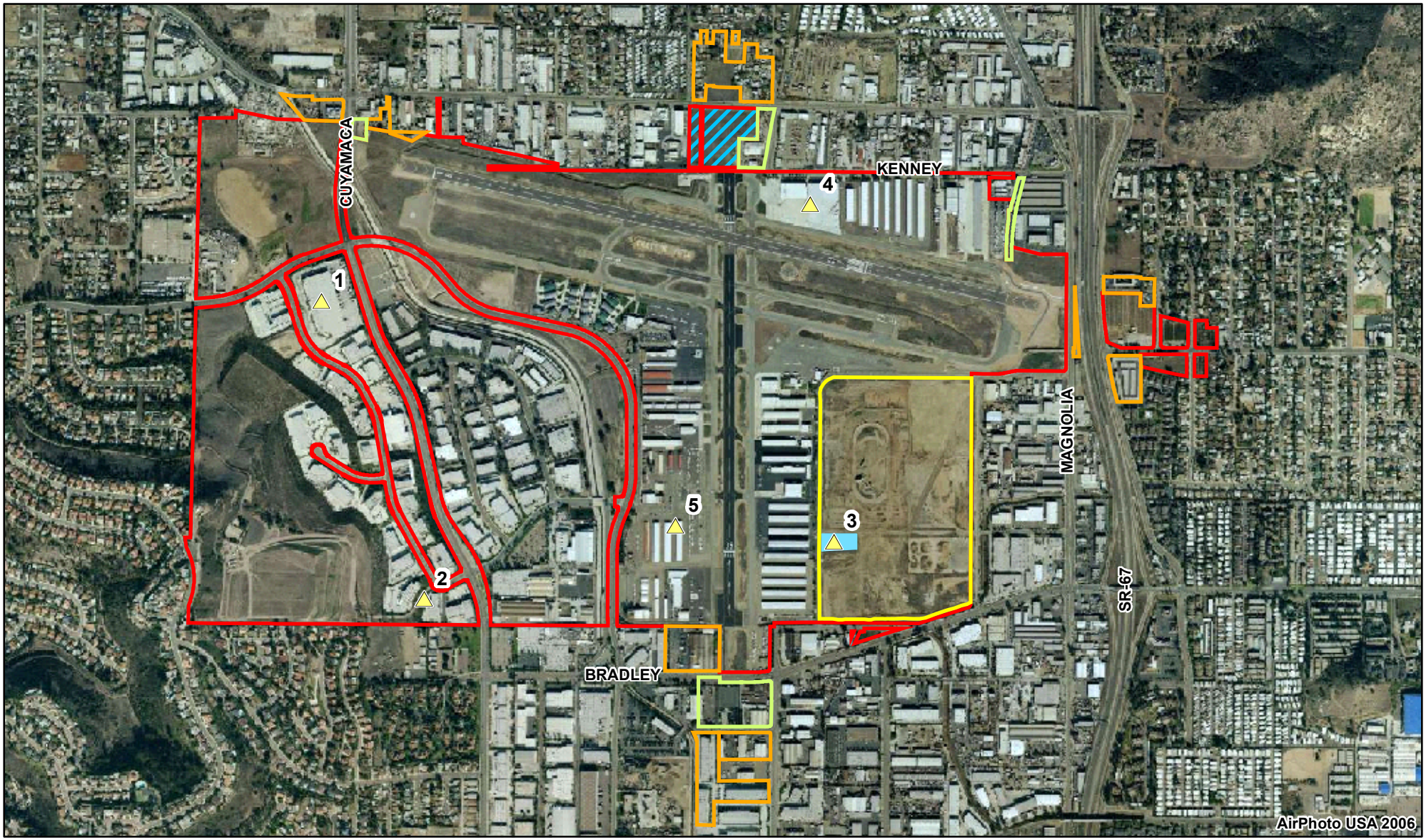
San Diego ambrosia is restricted to 15 known locations in San Diego and Riverside Counties, but also occurs in Baja California, Mexico (USFWS 2002). This represents less than half of the known historical occurrences of this species.

Historic Records in the Study Area

Four populations of the federally endangered San Diego ambrosia were observed during a 1985 field survey within the boundaries of the Gillespie Field Airport (ESU 1985) (Figure 9). These were referred to as (1) North Cuyamaca West, (2) South Cuyamaca West, (3) Speedway, and (4) Kenney Street populations. The Environmental Impact Report (EIR) for the Gillespie Field Master Plan determined that three of the four populations would be eliminated by the proposed master development, but the largest of these (the Speedway population) would be preserved as open space (AD Hinshaw Associates 1987). This species was not federally listed as endangered at that time. A fifth species point from 1998 (labeled "unknown" in Figure 9) was obtained from the CNDDB database. There is no additional information about this point; however, the population no longer exists because the area has been developed.

Current Population Status in the Study Area

Currently, there are two populations of San Diego ambrosia on the Gillespie Field Airport property; all others have been extirpated by development. The existing population of San



△ Historic San Diego Ambrosia Populations

1. N Cuyamaca West (1)
2. S Cuyamaca West (1)
3. Speedway (1)
4. Kenney Street (1)
5. Unnamed (2)

Source 1: ESU 1985, Biological Survey Report Gillespie Field Development Area, El Cajon
Source 2: CNDDB Database. Record Date 1998

Legend

- Kenney St. Transplant Site
- Ambrosia Mitigation Area

Base Map Legend

- Fee Acquisition Parcels
- Avigation Easement Parcels
- Airport Property
- 70-Acre Parcel (area of direct impact)

N

Feet

0 1,250

TAIC

Gillespie Field 70-Acre Parcel Redevelopment and Land Acquisition Project
Historic Populations of San Diego Ambrosia at Gillespie Field Airport

Figure 9

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Date: Jun 18, 2007

Diego ambrosia in the 70-acre parcel is the Speedway population that was protected as part of the airport redevelopment plan. The Kenney Street population described above was transplanted in 1993 to the area north of the runway as mitigation for the Waterfall Development site (PSBS 1995) (Figure 9). The presence of this transplanted population was verified by TAIC biologists in May, 2006.

Natural History

San Diego ambrosia has specific habitat requirements, including open, sunny, areas with few weedy species; moist sandy loam or clay loam soils; 0-9% slope; and moderately acidic soils (4.48-5.77 pH). It generally occurs in open floodplain terraces, river edges, alkali playas, or along the edges of vernal pools.

Little peer-reviewed literature exists regarding the biology of San Diego ambrosia. Before transplanting the population from the 1.1 ace ambrosia enclosure to a suitable receptor site, more studies will be necessary to enhance the understanding of the biology and genetics of this species. As part of the identification of a suitable mitigation site it is important to understand the reproduction mechanism of San Diego ambrosia and whether or not genetically distinct populations need to be kept separate to maintain function and viability. Based on preliminary results of a genetic analysis of this species, Dr. Elizabeth Friar of Claremont Graduate University recommends that each genetically distinct population be preserved independently (C. Burrascano, written comm.).

While it is assumed that San Diego ambrosia is primarily wind-pollinated and is self pollinating, pollen studies are needed to confirm this assumption or whether out crossing would be needed for viable seed production in this species. Low genetic diversity and low seed production may be further diminished by transplantation (Western Riverside County MSHCP). When small samples of root material are collected from insular populations and propagated and transplanted over larger areas, reproductive function problems may increase. Research concerning the genetic diversity and sexual reproduction of the plant is needed to answer basic questions about the biology and long term viability of this species. Initial studies conducted by Dr. Friar will be published soon and must be reviewed prior to the development of a transplant plan. In addition, the Soil Ecology and Restoration Group (SERG) at San Diego State University (SDSU) is currently conducting genetic experiments on this species, the results of which will need to be reviewed prior to finalizing a transplant plan for the Gillespie Field ambrosia population.

Threats

The greatest threats to this species have been urban development and habitat fragmentation. This species is more vulnerable to these threats because of its low genetic diversity. This clonal species reproduces by vegetative means through rhizome-like roots. The roots spread underground, and produce new shoots (aerial stems) which are genetically identical to one another. When the roots between the shoots disintegrate, the above-ground stems become separate, but genetically identical individuals. Self-pollination and self-fertility contribute to strong inbreeding in this species, which results in a much greater vulnerability to local extirpation. In addition, exotic, non-native species can threaten ambrosia through competition for resources.

4.4.2 Other Sensitive Species

With the exception of the San Diego ambrosia that is located in the protected mitigation area, no sensitive plant or animal species were observed in the study area during the 2006 surveys. A database search of special status plant and wildlife species within one mile of the study area resulted in a list of 14 potentially occurring species (Table 4-2).

Records of sensitive wildlife species within the immediate vicinity of the impact area (approximately 0.5 mi northeast of the 70-acre parcel) include the federally threatened California gnatcatcher (*Polioptila californicus californicus*), and state species of concern rufous-crowned sparrow (*Aimophila ruficeps canescens*), which were recorded from the undeveloped portions of Rattlesnake Mountain northeast of the airport (Figure 6). However, because of the highly disturbed condition of the project area in general (graded, eroded, or compacted soils, roadways, fences, landscaping, and the prevalence of invasive non-native species) and the associated lack of suitable habitat, it is unlikely that any of these species would occur onsite.

Table 4-2. Sensitive Species Documented within One Mile of the Study Area

Common Name	Scientific Name	Status[1] (State/Federal)	MSCP[2]
Plants			
Coast barrel cactus	*Ferocactus viridescens*	--/List 2	Yes
San Diego ambrosia	*Ambrosia pumila*	FE/--	Yes
Smooth tarplant	*Centromadia pungens ssp. laevis*	--/--	No
Invertebrates			
Quino checkerspot butterfly	*Euphydryas editha quino*	FE/--	No
Reptiles			
Orange-throated whiptail	*Cnemidophorus hyperythrus beldingi*	--/SSC	Yes
San Diego horned lizard	*Phrynosoma coronatum blainvellei*	--/SSC	Yes
Birds			
Cactus wren	*Campylorhynchus brunneicapillus*	/SSC	
California gnatcatcher	*Polioptila californica californica*	FT/SSC	Yes
Cooper's hawk	*Accipiter cooperi*	--/SSC	Yes
Least Bell's vireo	*Vireo bellii pusillus*	FE/SE	Yes
Rufous-crowned sparrow	*Aimophila ruficeps canescens*	--/SSC	Yes
Bell's sage sparrow	*Amphispiza belli belli*	--/SSC	No
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE/SE	Yes
Yellow-breasted chat	*Icteria virens auricollis*	--/SSC	No

[1] Status: *Federal*: FE – endangered, FT – threatened, FSC – special concern. *State*: SE – endangered, ST – threatened, SSC – special concern. *California Native Plant Society (CNPS):* List 1B – Plants rare, threatened, or endangered in California and elsewhere, List 2: Plants rare, threatened, or endangered in California, but more common elsewhere, List 3 – Plants about which we need more information, List 4 – Plants of limited distribution (a watch list).

[2] Species covered under the County's MSCP.

5.0 IMPACT ASSESSMENT

5.1 Thresholds of Significance

Criteria for determining the significance of impacts are listed below. The following thresholds of significance are based on applicable County of San Diego, CEQA and federal (including NEPA and FAA Order 1050.1E) guidelines. An impact would be considered significant if it would:

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, covered, or special-status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS;
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the CDFG or USFWS;
c) Have a substantial adverse impact on any sensitive natural community identified in local or regional plans, policies, regulations, or by the CDFG or USFWS;
d) Have a substantial adverse effect on federally-protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means;
e) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
f) Conflict with the provisions of any adopted Habitat Conservation Plan, Natural Communities Conservation Plan, or other approved local, regional or state habitat conservation plan, or any other local policies or ordinances that protect biological resources;
g) Conflict with any County policies or ordinances protecting biological resources such as tree preservation policies or other ordinances; or
h) Result in an introduction of invasive species of plants into a natural open space area.

5.2 Analysis of Project Impacts

Impacts, whether or not they are significant, can be direct or indirect, and permanent or temporary. Direct permanent impacts are those effects that take a biological resource which cannot be replaced onsite, such as removing native vegetation to construct a building. Direct, temporary impacts include effects, such as those from construction staging, that are only

temporary and can be restored to similar conditions prior to the impact. Indirect permanent impacts result from permanent surrounding influence, such as noise, light, or invasive species from a permanent source, such as a road, an airport, or a lighted sports facility. Indirect temporary effects are surrounding effects such as construction noise that will only last temporarily during construction activities of the project. Temporary impacts are not considered significant, by definition.

Each component of the proposed project was analyzed for its potential direct, indirect, permanent, and temporary impacts to biological resources. A summary of this analysis is presented below. For each of the three alternatives (Proposed, Alternative A, and Alternative B) this discussion will first address the *permanent* impacts to (a) vegetation communities and sensitive habitats and (b) sensitive species, followed by the *indirect* impacts to (a) and (b), and finally by *cumulative* impacts to (a) and (b).

5.2.1 Proposed Project

Direct Impacts

(a) Vegetation Communities and Sensitive Habitats

No direct impacts to biological resources are expected to occur on acquisition/easement parcels. However, the entire 70-acre parcel will be directly and permanently impacted by construction when this parcel is developed. No changes to Broadway Creek are planned as part of the future development of this site and, therefore, no impacts to non-vegetated channel or freshwater marsh are expected. However, 68.9 acres of disturbed habitat onsite and 1.1 acres of non-native grassland habitat located inside the ambrosia enclosure would be impacted by development (Table 5-1).

(b) Sensitive Species

The enclosure within the 70-acre parcel, occupied by non-native grassland habitat, contains a population of *Ambrosia pumila*, which is a remnant natural population that served as mitigation for the Gillespie Field Master Plan Revision and Development Project (Hinshaw Associates 1987). This population covered an area of approximately 0.16 acre with a density of 20 to 50 above-ground stems per m^2 at the time of the survey for this project (May 4, 2006). The entire population of this federally endangered species will be removed by the development of the 70-acre parcel, which constitutes a significant direct, permanent impact to a 0.16 acre population of this species. As discussed in the Survey Limitations in Section 3 of

this document, it is difficult to count the number of individuals of ambrosia due to its clonal reproduction. Therefore, impacts to this species were evaluated in this report based on the acreage of the population rather than number of plants.

Table 5-1 Direct, Permanent Impacts Expected for Proposed Project

Vegetation Community	Acreage of Direct Impacts	
	70-acre Parcel	Acquisitions/ Easements
Disturbed Habitat	68.9	0
Urban/Developed	0	0
Non-Vegetated Channel	0	0
Freshwater Marsh	0	0
Non-Native Grassland	1.1	0
TOTAL	**70.0**	**0**

Indirect Impacts

(a) Vegetation Communities and Sensitive Habitats

Indirect impacts associated with construction could negatively affect sensitive habitat within the study area and surrounding it. The most prominent indirect impact could come in the form of invasive species introduction, erosion, pollution, and sedimentation which, if not controlled, could negatively affect the non-vegetated channel and sensitive wetlands habitat. However, proper implementation of Best Management Practices (BMPs), as described in the mitigation section (Section 6), in conjunction with the County's ongoing maintenance program will reduce these impacts to a level below significance. No other indirect impacts are expected.

(b) Sensitive Species

Indirect impacts that are expected from construction include noise, dust, and lighting (if construction occurs at night). These factors, most notably noise and associated construction activity, are known to disturb the nesting behavior of sensitive bird species such as the

California gnatcatcher and the least Bell's vireo (*Vireo bellii pusillus*), often resulting in nest abandonment. However, because of the highly disturbed condition of the project area in general (graded, eroded, or compacted soils, roadways, fences, landscaping, and the prevalence of invasive non-native species) it is unlikely that any of these species would occur onsite. Therefore, no indirect impacts are expected for sensitive wildlife. Additionally, no indirect effects are expected to impact the ambrosia population due to the fact that the entire populations will be transplanted to a suitable receptor site and monitored in accordance with a transplantation and monitoring plan which would be reviewed and approved by the USFWS prior to project implementation.

Cumulative Impacts

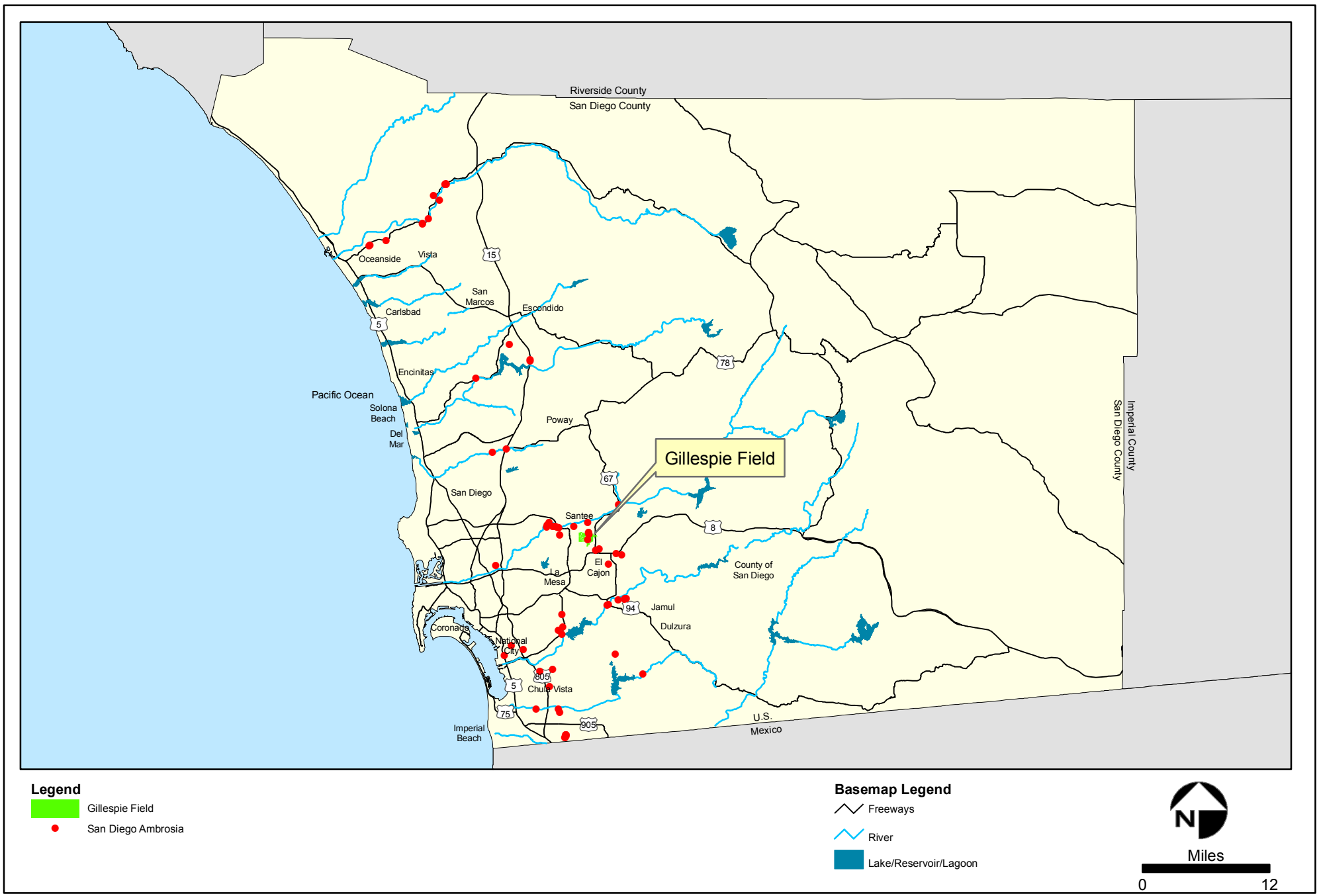
(a) Vegetation Communities and Sensitive Habitats

Table 6 summarizes the list of known projects that are expected to occur within 1 mile of the 70-acre parcel. The Forrester Creek Industrial Park project is expected to impact coastal sage scrub habitat, non-native grassland, and raptor foraging and nesting habitat. However, all of these impacts will be mitigated to below a level of significance. No other cumulative impacts to sensitive habitats are expected and, therefore, the project would not result in cumulative impacts to vegetation communities and sensitive habitats relative to these projects.

(b) Sensitive Species

San Diego ambrosia is endemic to southern California and northern Baja California, Mexico. Sensitive species database searches indicate that this species has historically been documented from at least 50 localities throughout western San Diego County (SANDAG 1995; CNDDB 2006; CNPS 2006; USFWS 2006) (Figure 10). However, ambrosia populations have experienced a rapid decline over the last half century. As of 2002, it is believed that only 12 extant occurrences, approximately 24 percent, of this species remain in San Diego County (USFWS 2002). Three additional occurrences have been reported from Riverside County, and the population status in Baja California is unknown.

The greatest threat to this species has been direct impact and loss of habitat due to development. The preferred habitat of this species (flat areas with moist soils, but outside of the riparian zone) is also suitable for development, and as such, much of the historic populations have been extirpated. Because so few populations remain, direct impacts to any extant population from the projects listed in Table 5-2 would be considered significant because of the affect it might have on the survival of the species as a whole. No significant



TAIC

Gillespie Field 70-Acre Parcel Redevelopment and Land Acquisition Project
Historic Distribution of San Diego Ambrosia in San Diego County

Figure 10

gist\projects\gillespie_field\plots\figures\Regional Ambrosia.mxd

Date: Sep 08, 2006

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Table 5-2. Known Projects in the Vicinity of the Study Area, City of El Cajon

Permit	APN	Permit Type	Type	Location	Biological Impact
	N/A	N/A	Bradley Ave/SR 67 Interchange Project	Bradley Ave, Magnolia to Mollison	None
TPM 20921	388-130-20-00	Tentative Parcel Map	subdivision to create 3 SFR parcels	1269 Tuttle Ln	None
TPM 20931	388-510-38-00	Tentative Parcel Map	subdivision to create 3 SFR parcels	560 Pepper Dr	None
TPM 20862	388-510-14-00	Tentative Parcel Map	subdivision to create 3 SFR parcels	624 Pepper Dr	None
TPM 20988	388-490-20-00	Tentative Parcel Map	subdivision to create 4 SFR parcels	8428 Poinciana Dr.	None
TPM 20925	388-490-55-00	Tentative Parcel Map	Subdivision to create 2 SFR parcels	2040 Marlinda Wy	None
TPM 20782	385-370-16-00	Tentative Parcel Map	Subdivision to create 4 SFR parcels	8841 Almond Ridge Rd	None
TPM 20821	385-070-22-00	Tentative Parcel Map	Subdivision to create 2 SFR parcels	8796 Golden Ridge	None
TPM 20837	388-541-13-00	Tentative Parcel Map	Subdivision to create 3 SFR parcels	8332 Sunset Road	None
TPM 20895	388-231-10-00	Tentative Parcel Map	Subdivision to create 4 SFR parcels	1103 Topper Lane	None
	Unknown	Unknown	Relocation of a Home Depot to the Kmart property from North Marshall Avenue and Arnele Avenue to North Magnolia Avenue and Fletcher Parkway	North Magnolia Avenue and Fletcher Parkway	None
	Unknown	Unknown	Forrester Creek Industrial Park project The proposed development would consist of a maximum of 500,000 square feet (SF) of multi-tenant industrial space, combining light industrial and warehouse uses.	Southwest corner of Cuyamaca Street and Prospect Avenue	Mitigated impacts to CSS, NNG, RH[1]

[1] CSS = coastal sage scrub; NNG = non-native grassland; RH = raptor foraging and nesting habitat

impacts to San Diego ambrosia are expected as long as none of the projects in Table 5-2 directly or indirectly impact extant populations.

5.2.2 Alternative A

Direct Impacts

(a) Vegetation Communities and Habitats

No direct impacts to biological resources are expected to occur on acquisition/easement parcels. However, the 70-acre parcel, with the exclusion of the ambrosia enclosure, will be directly and permanently impacted by construction when this parcel is developed. No changes to Broadway Creek are planned as part of the future development of this site and, therefore,

no impacts to non-vegetated channel or freshwater marsh are expected. However, 66.9 acres of disturbed habitat would be affected by development. Because the quality of this habitat is poor, it is not expected to support substantial native flora and fauna, and therefore, this impact would be considered less than significant.

(b) Sensitive Species

Alternative A would avoid the 1.1 acre *Ambrosia pumila* preserve area and maintain a 100 foot softscape buffer of 2 acres. Therefore, no direct impacts to sensitive species would be expected to occur as a result of implementation of Alterative A.

Indirect Impacts

(a) Vegetation Communities and Habitats

Alternative A would result in the same indirect impacts to vegetation communities and sensitive habitats as in the Proposed Alternative.

(b) Sensitive Species

Currently, the area surrounding the enclosure has recently been graded and covered with straw, but is undeveloped. It supports a small number of native plants such as bulbous perennials (blue-eyed grass and wild onion.). Under this alternative, a one-hundred foot wide strip of this area would be maintained on the north, south, and east sides of the 1.1 acre ambrosia preserve to serve as a buffer to soil compaction, sedimentation, and colonization of invasive non-native species. Provided appropriate maintenance, including mowing and weed removal, these indirect impacts would be mitigated to below a level of significance.

Hardscape features, such as roads, parking lots, and structures would result in greater runoff during rain events, and less percolation of water into the soil. These additional potential indirect affects to the ambrosia population resulting from increased surrounding impervious surfaces would be avoided through the incorporation of the 100 foot wide softscape buffer around the ambrosia population as designed for this alternative.

Cumulative Impacts

No significant cumulative impacts to vegetation communities, sensitive habitats or sensitive species are expected from projects listed in Table 5-2. See cumulative impacts discussion in Section 5.2.1.

5.2.3 Alternative B

Direct Impacts

(a) Vegetation Communities and Habitats

No direct impacts to biological resources are expected to occur on acquisition/easement parcels. Approximately 36.5 acres of disturbed habitat will be directly and permanently impacted by construction when this parcel is developed. No changes to Broadway Creek are planned as part of the future development of this site and, therefore, no impacts to non-vegetated channel or freshwater marsh are expected. Because the quality of this habitat is poor, it is not expected to support substantial native flora and fauna, and therefore, this impact would not be considered significant.

(b) Sensitive Species

Alternative B would avoid development on the western half of the 70-Acre parcel south of the taxiway, including the ambrosia enclosure. Therefore, no direct impacts to San Diego ambrosia would be expected from this alternative.

Indirect Impacts

(a) Vegetation Communities and Sensitive Habitats

No indirect impacts to vegetation communities or sensitive habitats would be expected to occur as a result of implementation of Alternative B.

(b) Sensitive Species

Under Alternative B, the 1.1 acre protected ambrosia preserve would continue to exist within the fenced enclosure. No construction of hardscape features, such as roads, parking lots, or structures would occur in the immediate vicinity of the ambrosia preserve and would not

result in indirect impacts to the extant ambrosia population within the 1.1 acre preserve as a result of hydrological modification. If properly managed, no significant effect is expected from the invasion of exotic species.

Cumulative Impacts

No significant cumulative impacts to vegetation communities, sensitive habitats or sensitive species are expected from projects listed in Table 5-2. See cumulative impacts discussion in Section 5.2.1.

6.0 MITIGATION RECOMMENDATIONS

6.1 Proposed Project

6.1.1 Direct Permanent Impacts

(a) Vegetation Communities and Sensitive Habitats

The proposed project does not require mitigation for impacts to habitat, because the Gillespie Field Airport falls outside of the County's MSCP subarea plan area, it is not subject to the Biological Mitigation Ordinance (BMO), which regulates direct take of sensitive habitat. In addition, as discussed earlier, this project is exempt from the County's RPO which protects biological resources in areas of the county that do not have an Implementing Agreement related to an approved subarea plan. Further, because impacts to riparian habitats and wetlands are not anticipated, no wetland mitigation is required.

(b) Sensitive Species

The only sensitive species that is expected to be affected by the proposed project is the federally endangered San Diego ambrosia, which is located within the protected enclosure on the west side of the 70-acre parcel. The entire ambrosia population is expected to be transplanted to an acceptable receptor site prior to any on-site development. An acceptable receptor site is a site in San Diego County suitable to San Diego ambrosia (as detailed below) that will be approved by USFWS prior to transplantation. If all plants in the enclosure are successfully transplanted and established following the guidelines below, the impact would be reduced to a level below significance. Translocation success must be documented for five years or until success criteria are met.

Guidelines for Successful Transplantation

1. **Choose an appropriate transplant site**
   - Review studies on the biology and genetics of San Diego ambrosia to determine whether out crossing is necessary to produce viable seed, and whether genetically distinct populations should remain spatially separated (e.g., by more than 2 miles).
   - The mitigation site should preferably be within the San Diego River Watershed.
   - Soils of the potential receptor site should be laboratory tested for suitability, and should fulfill the following suitability criteria:

- Adjacent to wetlands, vernal pools or alkali playas (not within riparian habitat);
- Sandy loam or clay loam soils;
- pH of approximately 4.48-5.77; and
- Surrounded by sparse vegetation of native species, including *Nassella* spp., *Ambrosia psilostachya, Hemizonia fasciculata, Holocarpha virgata, Distichlis spicata, Eremocarpus setigerus*, and several vernal pool species (e.g., *Navarretia fossalis*) (Burrascano 1997; Dudek and Associates 1999).

- The slope of the transplant site should be approximately 0-9%.
- If the receptor site is within 2 miles of or already supports an *Ambrosia pumila* population, genetic testing should be conducted to ensure that genetically distinct populations are not intermixed.

2. Prepare a transplantation plan that will ensure success

- The literature should be reviewed to determine the best methods for successful transplantation to avoid transplanting mistakes and to foster success. Some examples include PSBS (1995), and Johnson et al. (1999), but the most recent information available should be used when preparing the transplantation plan.

3. Prepare a monitoring and management plan

- Although Gillespie Field is not regulated by the MSCP, monitoring protocols should be consistent with MSCP monitoring protocols for this species if feasible.
- The monitoring plan should use an adaptive management strategy whereby management techniques are tested for effectiveness against specific success criteria. Success should be analyzed and management strategies revised as necessary.
- Monitoring should include regular population density measurements. If the population declines, remedial measures must be performed to maintain and/or improve population size.
- Regular invasive weed control should be an integral part of the management plan.
- Active management and long term maintenance will be negotiated with USFWS.

6.1.2 Indirect Impacts

(a) Vegetation Communities and Sensitive Habitats

Indirect impacts from construction may affect non-vegetated wetlands and freshwater marsh. These impacts can be avoided by following the general mitigation recommendations outlined below.

- A Stormwater Pollution Prevention Plan (SWPPP) will be prepared to comply with the County of San Diego Watershed Protection, Stormwater Management and Discharge Control Ordinance, as amended.
- All construction areas, including parking areas and access, will be clearly marked. No construction activities, materials, equipment, or personnel associated with project construction will be permitted beyond the project footprint.
- All equipment maintenance, staging, dispensing of fuel, oil, coolant, or any other such activities will occur in designated upland areas away from sensitive wetlands or riparian habitat, and at least 100 feet from waters of the U.S.
- Disposal or temporary placement of excess fill, brush, or other debris will not be allowed within or near waters of the US or their banks.
- Emergency provisions to contain and clean up unintentional spills will be in place prior to the onset of construction.
- Silty/turbid water will not be discharged into storm drains or riparian drainages.
- Appropriate erosion control measures, such as silt fences, gravel bags, and fiber rolls, will be applied where appropriate to control siltation and erosion in and around the project site.
- Construction personnel will adhere to BMPs as directed by County guidelines.
- A qualified biologist will be onsite during construction activities to monitor BMPs for signs of improper placement, implementation, and effectiveness, and to ensure that other mitigation recommendations are being properly followed.

(b) Sensitive Species

Because the entirety of the extant ambrosia population would be removed by the proposed action, no additional indirect impacts to this would be expected. Therefore, no mitigation for indirect impacts to sensitive species would be required.

6.1.3 Cumulative Impacts

No significant cumulative impacts to vegetation communities, sensitive habitats, or sensitive species are expected and, therefore, no mitigation is required.

6.2 Alternative A

6.2.1 Direct, Permanent Impacts

(a) Vegetation Communities and Sensitive Habitats

The proposed project does not require mitigation for impacts to habitat, because the Gillespie Field Airport falls outside of the County's MSCP subarea plan area, it is not subject to the Biological Mitigation Ordinance (BMO), which regulates direct take of sensitive habitat. In addition, as discussed earlier, this project is exempt from the County's RPO which protects biological resources in areas of the county that do not have an Implementing Agreement related to an approved subarea plan. Further, because impacts to riparian habitats and wetlands are not anticipated, no wetland mitigation is required.

(b) Sensitive Species

No direct impacts to sensitive species are expected and, therefore, no mitigation is required.

6.2.2 Indirect Impacts

(a) Vegetation Communities and Sensitive Species

No indirect impacts to vegetation communities are expected and, therefore, no mitigation is required.

(b) Sensitive Species

If the ambrosia enclosure and 100-ft buffer are properly managed, no significant effects are expected. Ongoing maintenance should be supervised by a qualified biologist, and include the following:

- Conduct an annual weed removal program (e.g., mowing, or use of herbicides) within the ambrosia enclosure, as necessary and determined by an experienced biologist. All herbicides used should be approved for use in native habitats. Herbicides should be

applied early in the season, and should be applied after dethatching has been completed. Herbicide application shall not harm the ambrosia population.

- Implement de-thatching program every three to five years, by raking, hand clearing, and weed-eating the dead remains of the weed species from the previous season. This technique has benefits over the more aggressive methods of herbicide and mowing because it is best applied later in the year, after the native and non-native plants have finished and set seed.
- Regularly monitor the health of the population.

6.2.3 Cumulative Impacts

As long as none of the projects listed in Table 5-2 directly or indirectly impact extant ambrosia populations, no significant cumulative impacts to sensitive habitats or species are expected and, therefore, no mitigation is required.

6.3 Alternative B

6.3.1 Direct, Permanent Impacts

(a) Vegetation Communities and Sensitive Habitats

The proposed project does not require mitigation for impacts to habitat, because the Gillespie Field Airport falls outside of the County's MSCP subarea plan area, it is not subject to the Biological Mitigation Ordinance (BMO), which regulates direct take of sensitive habitat. In addition, as discussed earlier, this project is exempt from the County's RPO which protects biological resources in areas of the county that do not have an Implementing Agreement related to an approved subarea plan. Further, because impacts to riparian habitats and wetlands are not anticipated, no wetland mitigation is required.

(b) Sensitive Species

Alternative B would not result in any direct impacts to sensitive species (San Diego ambrosia) and therefore, no mitigation would be required.

6.3.2 Indirect Impacts

(a) Vegetation Communities and Sensitive Habitats

No indirect impacts to vegetation communities or sensitive habitats would be expected to occur as a result of project implementation and therefore, no mitigation is required.

(b) Sensitive Species

If properly maintained, no significant impact is expected from implementation of Alternative B and therefore, no mitigation is required. Proper maintenance should be as described in section 6.2.2 (b).

6.3.3 Cumulative Impacts

No cumulative direct or indirect impacts are expected and therefore no mitigation would be required as long as the projects listed in Table 5-2 do not impact any extant San Diego ambrosia populations.

7.0 CONCLUSION

The Proposed Project would allow development of the entire 70-acre parcel, including the fenced area that currently protects a population of federally listed San Diego ambrosia. The project includes a component that consists of transplanting this population to a suitable receptor site and monitoring its success for five years. If done properly, this project component will reduce the direct impact to below a level of significance if specific criteria are met. Following the guidelines outlined in Section 6.1.1 of this report will help to ensure a successful transplant, and protect the species from further decline. No other direct or indirect impacts to sensitive species would be expected. Impacts to vegetation communities would include 68.9 acres of disturbed habitat and 1.1 acres of non-native grassland, which occurs inside the ambrosia enclosure. Because the study area falls outside of the County MSCP subarea plan area and is exempt from the RPO, impacts to non-native and disturbed habitats are not significant and will not require mitigation.

Alternatives A and B would directly impact 68.9 acres of disturbed habitat (Alternative A), or 36.5 acres of disturbed habitat (Alternative B). As described for the Proposed Project above, these impacts are not considered significant and would not require mitigation. No significant indirect impacts are expected from either alternative. Under both alternatives the 1.1 acre ambrosia enclosure would remain in its current fenced condition. Proper ongoing management, as outlined in Section 6.2.2 (b), would reduce potential indirect impacts from non-native species invasion to below a level of significance. In addition, the 100-ft buffer around the enclosure, included in Alternative A, would protect the ambrosia population from hydrological changes that may result from hardscaping the adjacent portions of the 70-Acre parcel, reducing this potential indirect impact to a non-significant level.

8.0 REFERENCES

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APPENDIX A

2006 Plant and Wildlife Species Compendium

Gillespie Field Redevelopment Project

2006 Inventory of Plant Species
Gillespie Field Airport Redevelopment Project Site

Common Name[1]	Scientific Name	Status[2] Fed/State	Covered by MSCP
EUDICOTS			
AMARANTHACEAE – Amaranth Family			
**Dysphania multifida*	Cut-Leaf Goosefoot	--/--	No
APOCYNACEAE - Dogbane Family			
**Nerium oleander*	Oleander	--/--	No
ASTERACEAE - Sunflower Family			
Ambrosia psilostachya	Western Ragweed	--/--	No
Ambrosia pumila	San Diego Ambrosia	--/List 1B	Yes
Baccharis sarothroides	Broom Baccharis	--/--	No
**Conyza canadensis*	Horseweed	--/--	No
Isocoma menziesii	Goldenbush	--/--	No
Corethrogyne filaginifolia	California-Aster	--/--	No
**Sonchus oleraceus*	Common Sow-Thistle	--/--	No
**Taraxacum officinale*	Common Dandelion	--/--	No
Xanthium strumarium	Cocklebur	--/--	No
BRASSICACEAE - Mustard Family			
**Brassica nigra*	Black Mustard	--/--	No
**Hirschfeldia incana*	Short-Pod Mustard	--/--	No
**Raphanus sativus*	Wild Radish	--/--	No
Rorippa nasturtium-aquaticum	Watercress	--/--	No
**Sisymbrium irio*	London Rocket	--/--	No
CARYOPHYLLACEAE - Pink Family			
Silene gallica	Common Catchfly	--/--	No
EUPHORBIACEAE - Spurge Family			
Croton setigerus	Doveweed	--/--	No
**Ricinus communis*	Castor Bean	--/--	No
FABACEAE - Pea Family			
**Medicago polymorpha*	Bur-clover	--/--	No
GERANIACEAE - Geranium Family			
**Erodium cicutarium*	Red-stem Filaree	--/--	No
**Erodium moschatum*	White-stem Filaree/Storksbill	--/--	No
LYTHRACEAE - Loosestrife Family			
**Lythrum hyssopifolium*	Grass Poly	--/--	No
MALVACEAE - Mallow Family			
**Malva neglecta*	Common Mallow	--/--	No
POLYGONACEAE - Buckwheat Family			
**Rumex crispus*	Curly Dock	--/--	No
SOLANACEAE - Nightshade Family			
**Datura wrighti*	Western Jimson Weed	--/--	No

Common Name[1]	Scientific Name	Status[2] Fed/State	Covered by MSCP
MONOCOTS			
ALLIACEAE - Onion Family			
Allium sp.	Wild Onion	--/--	No
ARECACEAE (PALMAE) - Palm Family			
**Washingtonia robusta*	Mexican Fan Palm	--/--	No
CYPERACEAE - Sedge Family			
Eleocharis macrostachya	Pale Spike-Rush	--/--	No
IRIDACEAE - Iris Family			
Sisyrinchium bellum	Blue-Eyed-Grass	--/--	No
JUNCACEAE - Rush Family			
Juncus bufonius	Toad Rush	--/--	No
POACEAE - Grass Family			
**Avena fatua*	Wild Oat	--/--	No
**Bromus diandrus*	Ripgut Grass	--/--	No
**Cynodon dactylon*	Bermuda Grass	--/--	No
Distichlis spicata	Saltgrass	--/--	No
**Hordeum murinum ssp. leporinum*	Hare Barley	--/--	No
**Lolium multiflorum*	Italian Ryegrass	--/--	No
**Polypogon monspeliensis*	Rabbits-Foot Grass	--/--	No
**Triticum aestivum*	Cereal Wheat	--/--	No

[1] **Data Sources**: General biological resources survey and focused species survey conducted by TAIC in 2006

[2] **Status**: : *Federal*: FE – endangered, FT – threatened, FSC – special concern, FFP – fully protected, FD – federally delisted. *State*: SE – endangered, ST – threatened, SSC – special concern, SFP – fully protected. *California Native Plant Society (CNPS):* List 1B – Plants rare, threatened, or endangered in California and elsewhere, List 2: Plants rare, threatened, or endangered in California, but more common elsewhere, List 3 – Plants about which we need more information, List 4 – Plants of limited distribution (a watch list).

*** Introduced Species**

2006 Inventory of Wildlife Species
Gillespie Field Airport Redevelopment Project Site

Common Name[1]	Scientific Name	Status[2] Fed/State	Covered by MSCP
CLASS: AVES (Birds)			
CICONIIFORMES (Herons and relatives)			
ARDEIDAE (Herons and Bitterns)			
Cattle Egret	*Bubulcus ibis*	--/--	No
ANSERIFORMES (Ducks, and relatives)			
ANATIDAE (Swans, Geese, and Ducks)			
Mallard	*Anas platyrhynchos*	--/--	No
Cinnamon Teal	*Anas cyanoptera*	--/--	No
FALCONIFORMES (Hawks, Falcons)			
ACCIPITRIDAE (Hawks and Harriers)			
Red-tailed Hawk	*Buteo jamaicensis*	--/--	No
CHARADRIIFORMES (Shorebirds, Gulls,)			
CHARADRIIDAE (Plovers and relatives)			
Killdeer	*Charadrius vociferus*	--/--	No
COLUMBIFORMES (Pigeons and Doves)			
COLUMBIDAE (Pigeons and Doves)			
Mourning Dove	*Zenaida macroura*	--/--	No
Rock Pigeon	*Columba livia*	--/--	No
APODIFORMES (Swifts and Hummingbirds)			
TROCHILIDAE (Hummingbirds)			
Anna's Hummingbird	*Calypte anna*	--/--	No
PASSERIFORMES (Perching Birds)			
TYRANNIDAE (Tyrant Flycatchers)			
Black Phoebe	*Sayornis nigricans*	--/--	No
Cassin's Kingbird	*Tyrannus vociferans*	--/--	No
Western Kingbird	*Tyrannus verticalis*	--/--	No
CORVIDAE (Jays, Magpies, and Crows)			
Common Raven	*Corvus corax*	--/--	No
STURNIDAE (Starlings & Allies)			
*European Starling	*Sturnus vulgaris*	--/--	No
MIMIDAE (Mockingbirds and Thrashers)			
Northern Mockingbird	*Mimus polyglottos*	--/--	No
FRINGILLIDAE (Finches)			
House Finch	*Carpodacus mexicanus*	--/--	No
EMBERIZIDAE (Emberizines)			
Song Sparrow	*Melospiza melodia*	--/--	No

Common Name[1]	Scientific Name	Status[2] Fed/State	Covered by MSCP
CLASS: MAMMALIA (Mammals)			
RODENTIA (Squirrels, Rats, and Mice)			
SCIURIDAE (Squirrels, and Chipmunks)			
California Ground Squirrel	*Spermophilus beecheyi*	--/--	No
GEOMYIDAE (Pocket Gophers)			
Botta's Pocket Gopher	*Thomomys bottae*	--/--	No

[1] **Source**: General biological resources surveys conducted by TAIC in 2006

[2] **Status**: Federal: FE – endangered, FT – threatened, FSC – special concern, FFP – fully protected, BEPA – Bald Eagle Protection Act, FD – federally delisted. State: SE – endangered, ST – threatened, SSC – special concern, SFP – fully protected.

*** Introduced species**